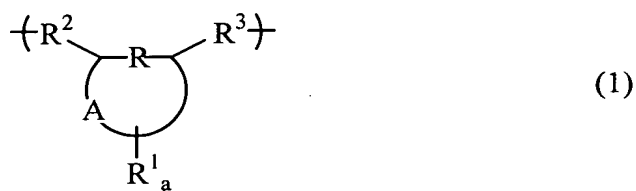


The following listing of claims will replace all prior versions, and listings, of claims in the application:

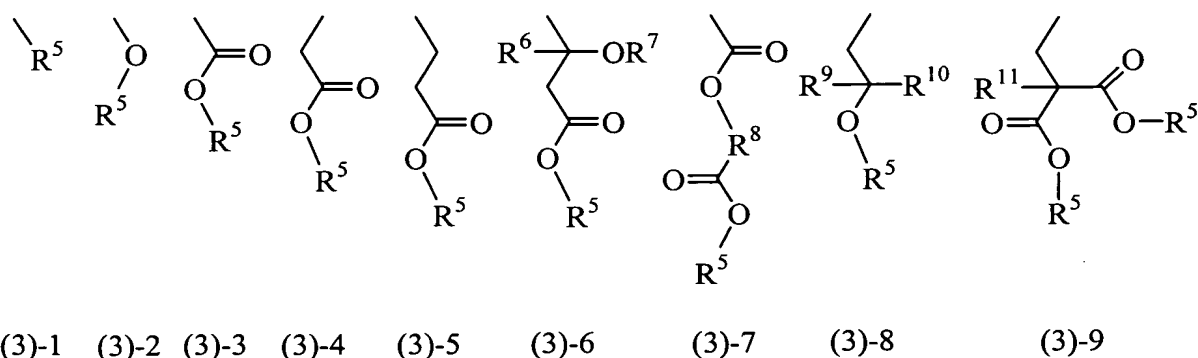
Listing of Claims:

1. (Presently Amended): A polymer comprising recurring units of a compound of formula (1):



wherein

A is a divalent aliphatic or alicyclic hydrocarbon group of 2 to 20 carbon atoms,
~~R¹ is an alkyl group containing at least one fluorine atom, and which optionally contains a hetero atom,~~
selected from formulae (3)-1, (3)-2, (3)-3, (3)-4, (3)-5, (3)-6, (3)-7, (3)-8, and (3)-9



"a" is a positive number of 1 to 3,

R is a single bond, methylene group, oxygen atom, NH group or sulfur atom, and

R² and R³ each are a single bond or methylene group,

R⁵ is a fluorinated alkyl group which optionally contains an ether or ester bond,

R⁶ and R¹¹ are, each independently, hydrogen or a straight alkyl group of 1 to 10 carbon atoms,

R⁷ is hydrogen, a straight alkyl group of 1 to 10 carbon atoms, or -C=O-R¹²,

R¹² is hydrogen or a straight alkyl group of 1 to 10 carbon atoms, and

R⁸ is an alkylene group of 1 to 10 carbon atoms, and

either one or both of R⁹ and R¹⁰ are alkyl groups of 1 to 5 carbon atoms having at least one fluorine atom substituted thereon.

2. (Original): The polymer of claim 1 further comprising recurring units containing acid labile groups.

3. (Previously Presented): A chemically amplified resist composition comprising the polymer of claim 1.

4. (Previously Presented): A chemically amplified positive resist composition comprising

- (A) the polymer of claim 1,
- (B) an organic solvent, and
- (C) a photoacid generator.

5. (Original): The resist composition of claim 4 further comprising a basic compound.

6. (Original): The resist composition of claim 4 further comprising a dissolution inhibitor.

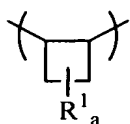
7. (Original): A process for forming a resist pattern comprising the steps of:
applying the resist composition of claim 4 onto a substrate to form a coating,
heat treating the coating and then exposing it to high-energy radiation having a wavelength of up to 180 nm or electron beams through a photo mask, and
optionally heat treating the exposed coating and developing it with a developer.

8. (Previously Listed as the second Claim 7) (Cancelled):

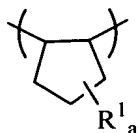
9. (Previously Listed as Claim 8) (Cancelled):

10. 9. (Presently Amended): A polymer of claim 1, wherein R is a single bond or methylene.

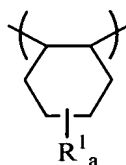
11. 10. (Presently Amended): A polymer of claim 1, wherein the recurring units of formula (1) are selected from formulae (2)-1, (2)-2, (2)-3, (2)-4, (2)-5, (2)-6, (2)-7, (2)-8, and (2)-9



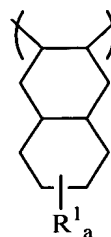
(2)-1



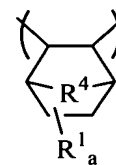
(2)-2



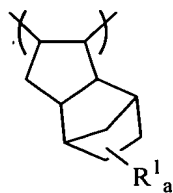
(2)-3



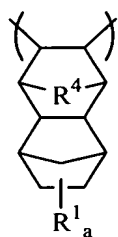
(2)-4



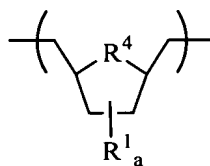
(2)-5



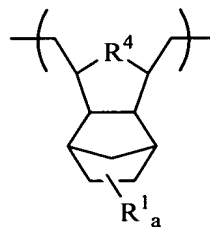
(2)-6



(2)-7



(2)-8



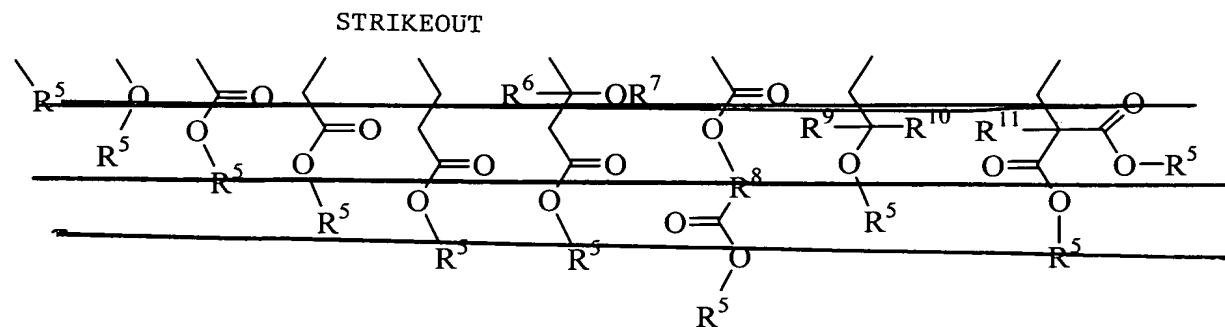
(2)-9

wherein

R^4 is a methylene group, oxygen atom, NH group or sulfur atom, and

“a” is a positive number of 1 to 3, and

R^1 is selected from formulae (3) 1, (3) 2, (3) 3, (3) 4, (3) 5, (3) 6, (3) 7, (3) 8, and (3) 9



(3)-1 (3)-2 (3)-3 (3)-4 (3)-5 (3)-6 (3)-7 (3)-8 (3)-9

wherein

R^5 is a fluorinated alkyl group which optionally contains an ether or ester bond;

R^6 and R^{11} are, each independently, hydrogen or a straight alkyl group of 1 to 10 carbon atoms;

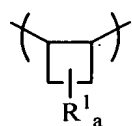
R^7 is hydrogen, a straight alkyl group of 1 to 10 carbon atoms, or $C=O-R^{12}$;

R^{12} is hydrogen or a straight alkyl group of 1 to 10 carbon atoms, and

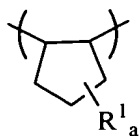
R^8 is an alkylene group of 1 to 10 carbon atoms;

wherein either one or both of R^9 and R^{10} are alkyl groups of 1 to 5 carbon atoms having at least one fluorine atom substituted thereon.

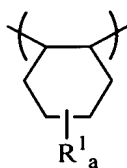
12. ~~11~~. (Presently Amended): A polymer of claim 1, wherein the recurring units of formula (1) are selected from formulae (2)-1, (2)-2, (2)-3, (2)-4, (2)-5, (2)-6, (2)-7, (2)-8, and (2)-9



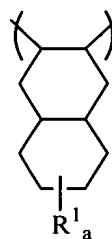
(2)-1



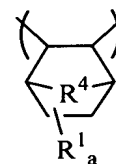
(2)-2



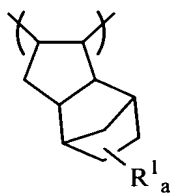
(2)-3



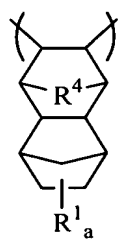
(2)-4



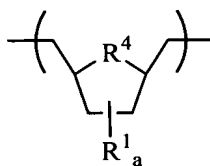
(2)-5



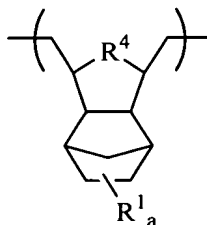
(2)-6



(2)-7



(2)-8



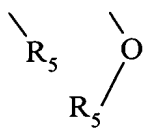
(2)-9

wherein

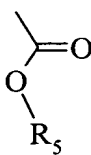
R^4 is a methylene group, oxygen atom, NH group or sulfur atom,

“a” is a positive number of 1 to 3, and

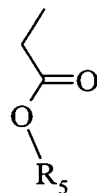
R^1 is selected from formulae (3)-1, (3)-2, (3)-3, (3)-4, (3)-5, (3)-6, (3)-7, and (3)-9



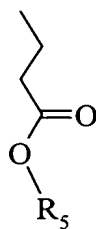
(3)-1



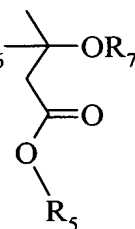
(3)-2



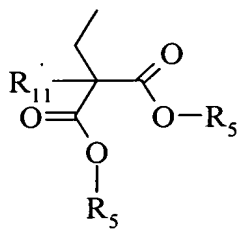
(3)-3



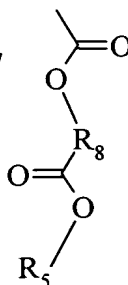
(3)-4



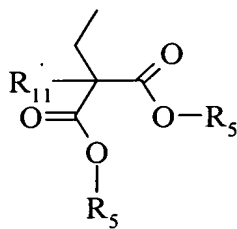
(3)-5



(3)-6



(3)-7



(3)-9

wherein

R⁵ is a fluorinated alkyl group which optionally contains an ether or ester bond,

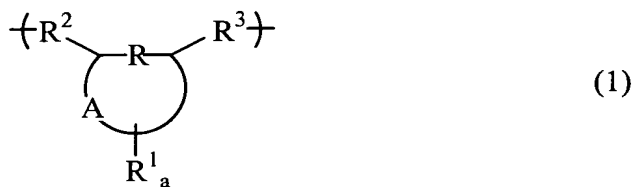
R⁶ and R¹¹ are, each independently, hydrogen or a straight alkyl group of 1 to 10 carbon atoms,

R⁷ is hydrogen, a straight alkyl group of 1 to 10 carbon atoms, or -C=O-R¹²,

R¹² is hydrogen or a straight alkyl group of 1 to 10 carbon atoms, and

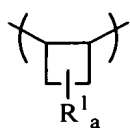
R⁸ is an alkylene group of 1 to 10 carbon atoms.

13. 12. (Presently Amended): A polymer comprising recurring units of a compound of formula (1):

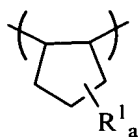


wherein A is a divalent aliphatic or alicyclic hydrocarbon group of 2 to 20 carbon atoms, R¹ is an alkyl group containing at least one fluorine atom, and which optionally contains a hetero atom, "a" is a positive number of 1 to 3, R is a single bond, methylene group, oxygen atom, NH group or sulfur atom, and R² and R³ each are a single bond or methylene group,

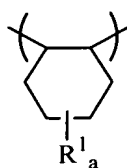
wherein the recurring units of formula (1) are selected from formulae (2)-1, (2)-2, (2)-3, (2)-4, (2)-5, (2)-6, (2)-7, (2)-8, and (2)-9



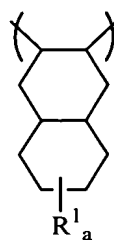
(2)-1



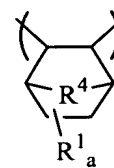
(2)-2



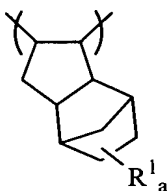
(2)-3



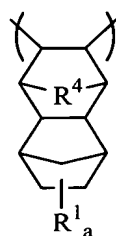
(2)-4



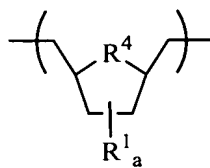
(2)-5



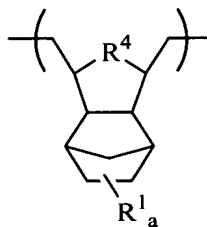
(2)-6



(2)-7



(2)-8



(2)-9

wherein

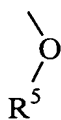
R^4 is a methylene group, oxygen atom, NH group or sulfur atom,

"a" is a positive number of 1 to 3,

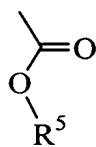
R^1 is selected from formulae (3)-1, (3)-2, (3)-3, (3)-4, (3)-5, (3)-6, (3)-7, (3)-8, and (3)-9



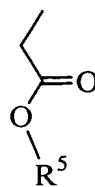
(3)-1



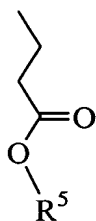
(3)-2



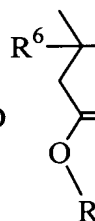
(3)-3



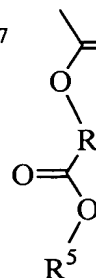
(3)-4



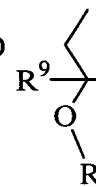
(3)-5



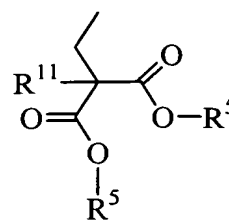
(3)-6



(3)-7



(3)-8



(3)-9

R^6 and R^{11} are, each independently, hydrogen or a straight alkyl group of 1 to 10 carbon atoms,

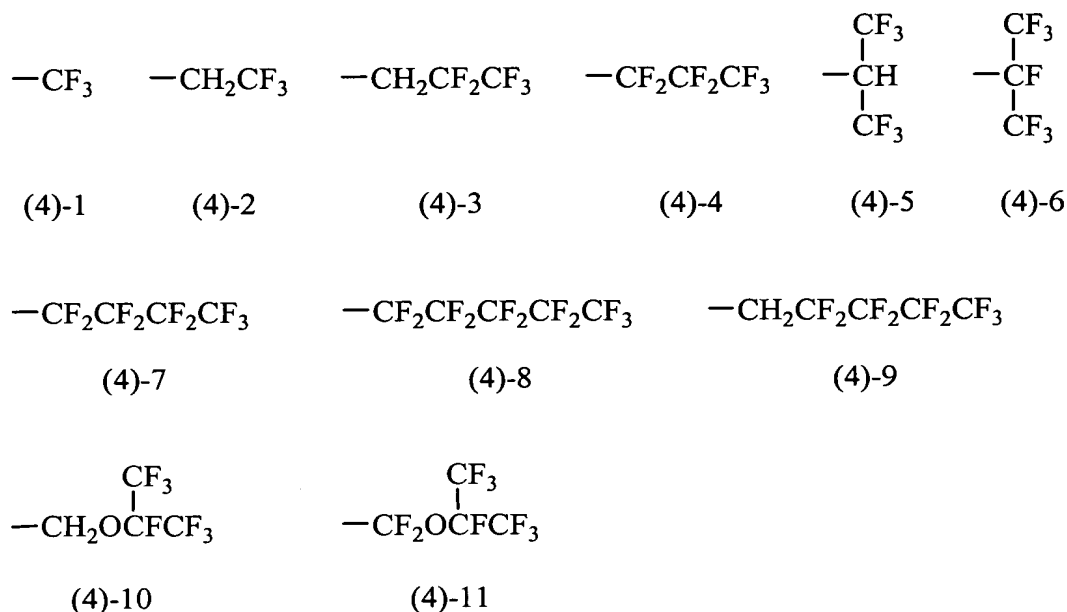
R⁷ is hydrogen, a straight alkyl group of 1 to 10 carbon atoms, or -C=O-R¹²,

R¹² is hydrogen or a straight alkyl group of 1 to 10 carbon atoms, and

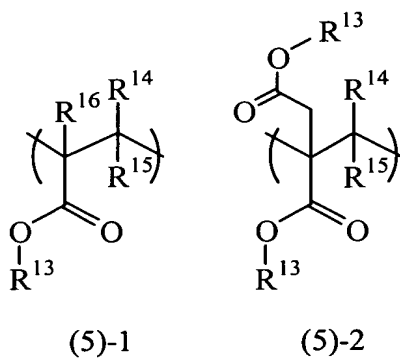
R⁸ is an alkylene group of 1 to 10 carbon atoms,

wherein either one or both of R⁹ and R¹⁰ are alkyl groups of 1 to 5 carbon atoms having at least one fluorine atom substituted thereon, and

according to claim 10, wherein R⁵ is selected from formulae (4)-1, (4)-2, (4)-3, (4)-4, (4)-5, (4)-6, (4)-7, (4)-8, (4)-9, (4)-10 and (4)-11



~~14.~~ 13. (Presently Amended): A polymer of claim 1, further comprising recurring units of a (meth)acrylic compound of formula (5)-1 or (5)-2

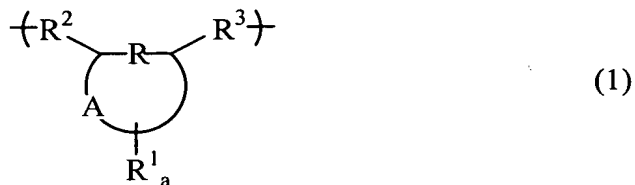


wherein

R¹³ is an acid labile group, and

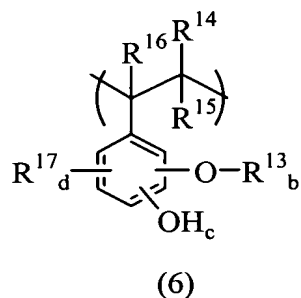
R¹⁴, R¹⁵ and R¹⁶ are, each independently, a hydrogen atom, fluorine atom, or a straight, branched or cyclic alkyl group of 1 to 10 carbon atoms, which are, each independently, optionally substituted with fluorine.

15. 14. (Presently Amended): A polymer comprising recurring units of a compound of formula (1):



wherein A is a divalent aliphatic or alicyclic hydrocarbon group of 2 to 20 carbon atoms, R¹ is an alkyl group containing at least one fluorine atom, and which optionally contains a hetero atom, "a" is a positive number of 1 to 3, R is a single bond, methylene group, oxygen atom, NH group or sulfur atom, and R² and R³ each are a single bond or methylene group,

said compound of claim 1, further comprising recurring units of a styrene compound of formula (6)



wherein

R¹³ is an acid labile group,

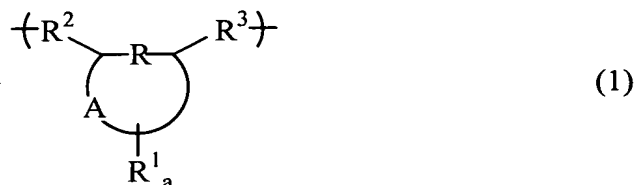
R¹⁴, R¹⁵ and R¹⁶ are, each independently, a hydrogen atom, fluorine atom, or a straight, branched or cyclic alkyl group of 1 to 10 carbon atoms, which are, each independently, optionally substituted with fluorine,

R¹⁷ is a hydrogen atom, fluorine atom, or a straight, branched or cyclic alkyl group of 1 to 10 carbon atoms, which is optionally substituted with fluorine,

b is a positive number of 1 to 5, and

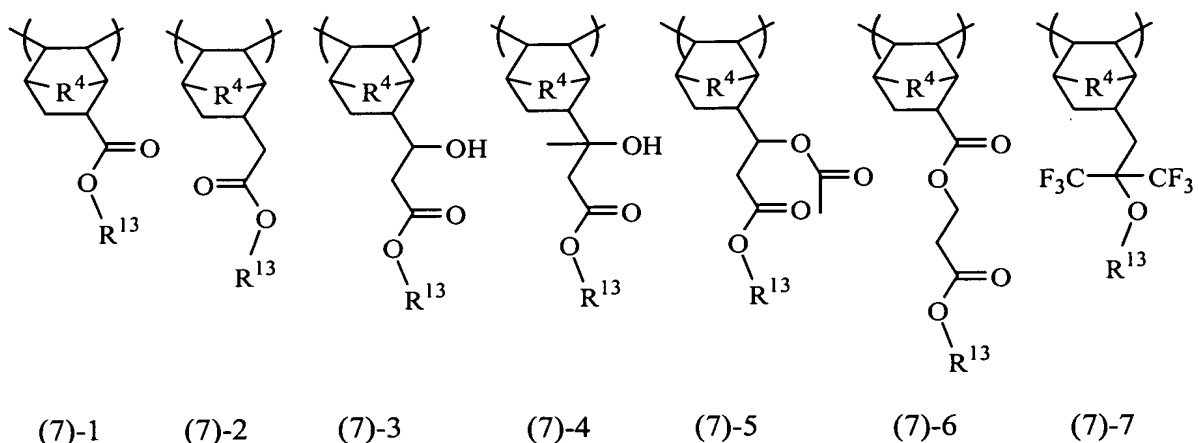
c and d are, each independently, 0 or a positive number of 1 to 4.

16. 15. (Presently Amended): A polymer comprising recurring units of a compound of formula (1):



wherein A is a divalent aliphatic or alicyclic hydrocarbon group of 2 to 20 carbon atoms, R¹ is an alkyl group containing at least one fluorine atom, and which optionally contains a hetero atom, "a" is a positive number of 1 to 3, R is a single bond, methylene group, oxygen atom, NH group or sulfur atom, and R² and R³ each are a single bond or methylene group,

said compound of claim 1, further comprising recurring units of a norbornene compound selected from formulae (7)-1, (7)-2, (7)-3, (7)-4, (7)-5, (7)-6, and (7)-7

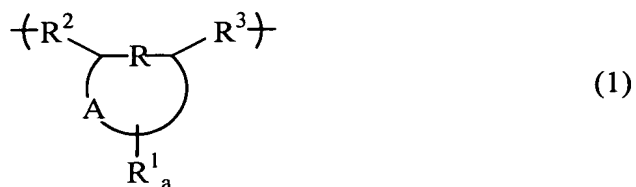


wherein

R⁴ is a methylene group, oxygen atom, NH group or sulfur atom, and

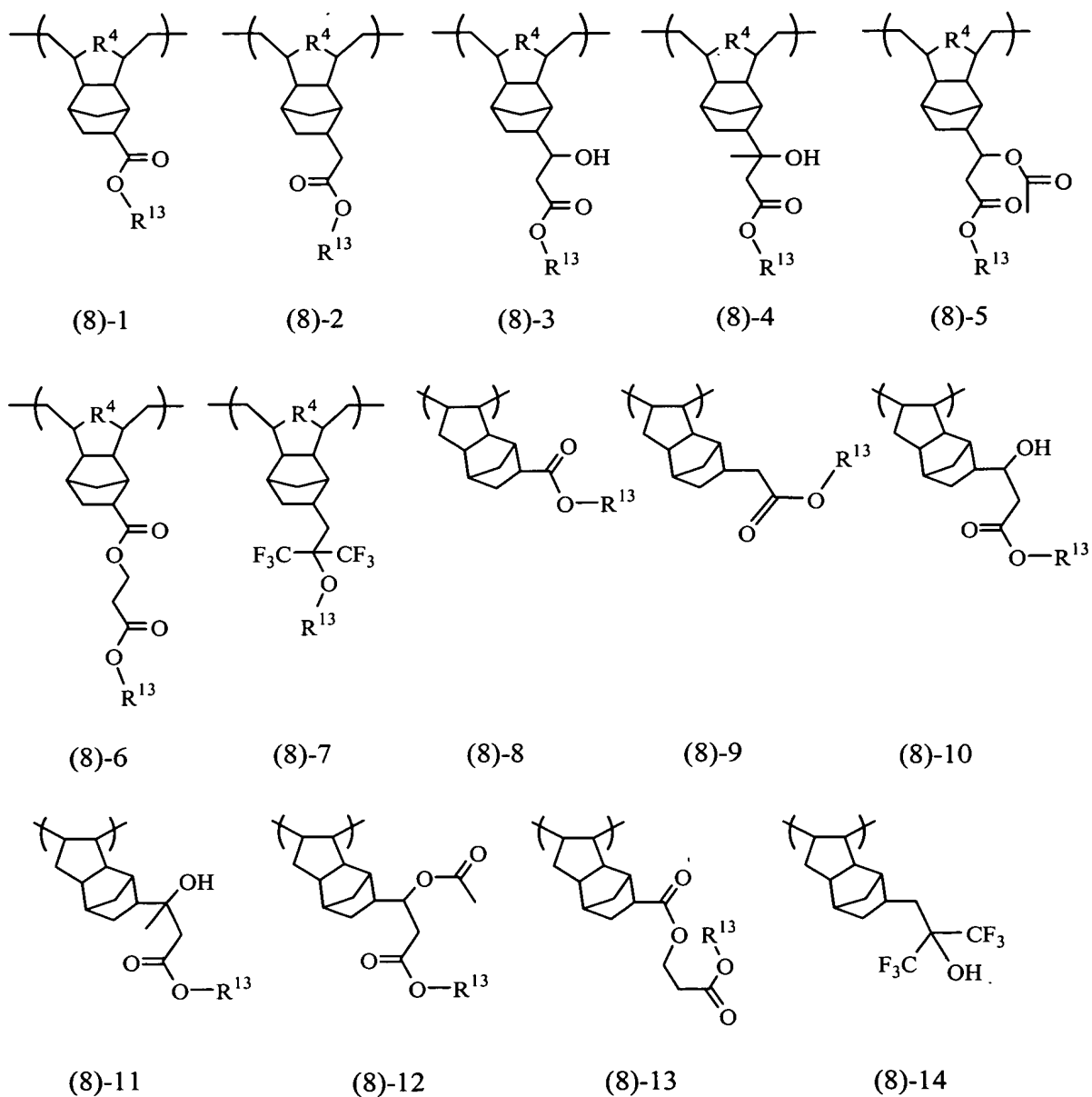
R¹³ is an acid labile group.

17. 16. (Presently Amended): A polymer comprising recurring units of a compound of formula (1):



wherein A is a divalent aliphatic or alicyclic hydrocarbon group of 2 to 20 carbon atoms, R¹ is an alkyl group containing at least one fluorine atom, and which optionally contains a hetero atom, "a" is a positive number of 1 to 3, R is a single bond, methylene group, oxygen atom, NH group or sulfur atom, and R² and R³ each are a single bond or methylene group,

said compound ~~of claim 1~~, further comprising recurring units of a tricyclodecene compound selected from formulae (8)-1, (8)-2, (8)-3, (8)-4, (8)-5, (8)-6, (8)-7, (8)-8, (8)-9, (8)-10, (8)-11, (8)-12, (8)-13, and (8)-14

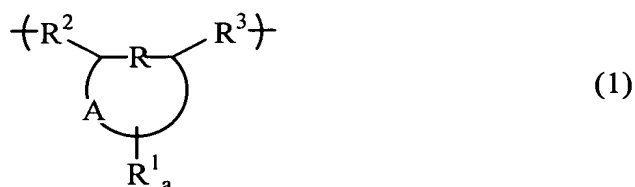


wherein

R^4 is a methylene group, oxygen atom, NH group or sulfur atom, and

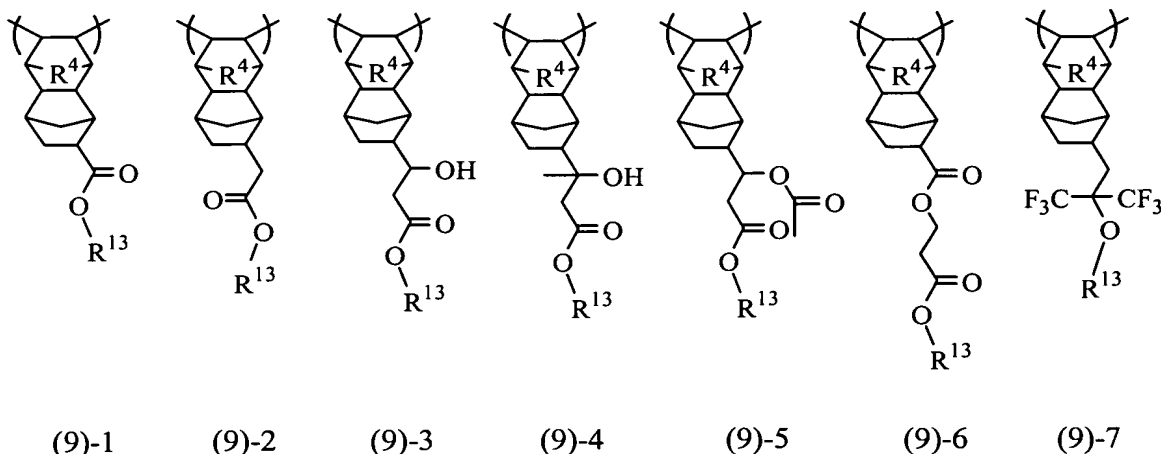
R^{13} is an acid labile group.

18. 17. (Presently Amended): A polymer comprising recurring units of a compound of formula (1):



wherein A is a divalent aliphatic or alicyclic hydrocarbon group of 2 to 20 carbon atoms, R¹ is an alkyl group containing at least one fluorine atom, and which optionally contains a hetero atom, "a" is a positive number of 1 to 3, R is a single bond, methylene group, oxygen atom, NH group or sulfur atom, and R² and R³ each are a single bond or methylene group,

~~said compound of claim 1,~~ further comprising recurring units of a tetracyclododecene compound selected from formulae (9)-1, (9)-2, (9)-3, (9)-4, (9)-5, (9)-6, and (9)-7

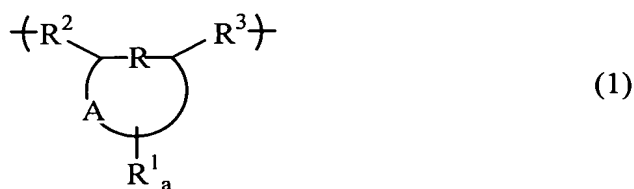


wherein

R⁴ is a methylene group, oxygen atom, NH group or sulfur atom, and

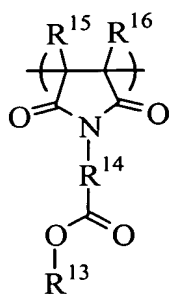
R¹³ is an acid labile group.

19. 18. (Presently Amended): A polymer comprising recurring units of a compound of formula (1):

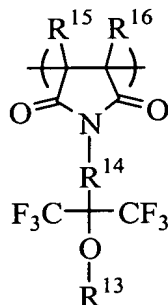


wherein A is a divalent aliphatic or alicyclic hydrocarbon group of 2 to 20 carbon atoms, R¹ is an alkyl group containing at least one fluorine atom, and which optionally contains a hetero atom, "a" is a positive number of 1 to 3, R is a single bond, methylene group, oxygen atom, NH group or sulfur atom, and R² and R³ each are a single bond or methylene group,

said compound of claim 1, further comprising recurring units of a maleimide compound of formula (10)-1 or (10)-2



(10)-1



(10)-2

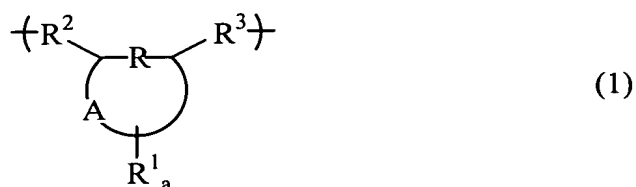
wherein

R¹³ is an acid labile group,

R¹⁴ is a single bond or an alkylene group of 1 to 10 carbon atoms, and

R¹⁵ and R¹⁶ are, each independently, hydrogen, fluorine, methyl or trifluoromethyl.

20. 49: (Presently Amended): A polymer comprising recurring units of a compound of formula (1):



wherein A is a divalent aliphatic or alicyclic hydrocarbon group of 2 to 20 carbon atoms, R¹ is an alkyl group containing at least one fluorine atom, and which optionally contains a hetero atom, "a" is a positive number of 1 to 3, R is a single bond, methylene group, oxygen atom, NH group or sulfur atom, and R² and R³ each are a single bond or methylene group,

said compound of claim 1, further comprising recurring units of a vinyl alcohol compound of formula (11)



wherein

R¹³ is an acid labile group, and

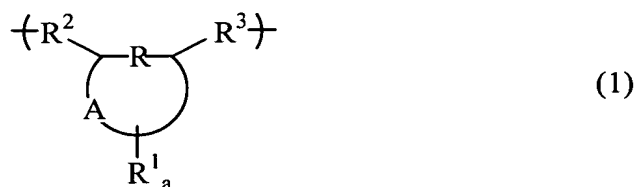
R¹⁴, R¹⁵ and R¹⁶ are, each independently, a hydrogen atom, fluorine atom, or a straight, branched or cyclic alkyl group of 1 to 10 carbon atoms, which are, each independently, optionally substituted with fluorine.

21. 20. (Presently Amended): A polymer according to claim 1, wherein said polymer has having a weight average molecular weight of 1,000 to 1,000,000.

22. 21. (Presently Amended): In a process of preparing a polymer, the improvement wherein a monomer of formula (1) of claim 1 is used.

23. 22. (Presently Amended): In a process of forming a resist composition or a resist pattern, the improvement wherein a polymer of claim 1 is used.

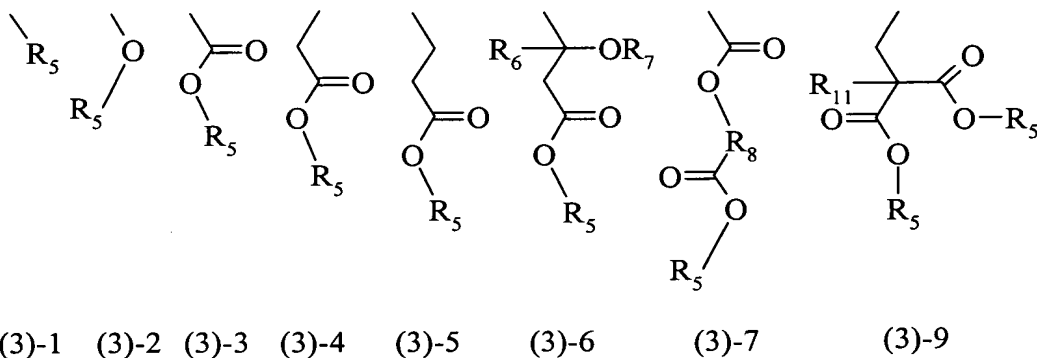
24. (New): A chemically amplified positive resist composition comprising
 (A) a polymer comprising recurring units of a compound of formula (1):



wherein A is a divalent aliphatic or alicyclic hydrocarbon group of 2 to 20 carbon atoms, R¹ is an alkyl group containing at least one fluorine atom, and which optionally contains a hetero atom, "a" is a positive number of 1 to 3, R is a single bond, methylene group, oxygen atom, NH group or sulfur atom, and R² and R³ each are a single bond or methylene group,

- (B) an organic solvent,
 (C) a photoacid generator, and
 (D) a dissolution inhibitor.

25. (New): A polymer of claim 1, wherein
 R¹ is selected from formulae (3)-1, (3)-2, (3)-3, (3)-4, (3)-5, (3)-6, (3)-7, and (3)-9



R⁵ is a fluorinated alkyl group which optionally contains an ether or ester bond,
 R⁶ and R¹¹ are, each independently, hydrogen or a straight alkyl group of 1 to 10 carbon atoms,
 R⁷ is hydrogen, a straight alkyl group of 1 to 10 carbon atoms, or -C=O-R¹²,
 R¹² is hydrogen or a straight alkyl group of 1 to 10 carbon atoms, and

R^8 is an alkylene group of 1 to 10 carbon atoms.

26. (New): A polymer according to claim 25, further comprising recurring units containing acid labile groups.

27. (New): A chemically amplified resist composition comprising a polymer according to claim 25.

28. (New): A chemically amplified positive resist composition comprising

(A) the polymer of claim 25,

(B) an organic solvent, and

(C) a photoacid generator.

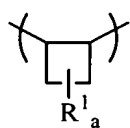
29. (New): A resist composition according to claim 28, further comprising a basic compound.

30. (New): A resist composition according to claim 28, further comprising a dissolution inhibitor.

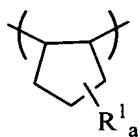
31. (New): A process for forming a resist pattern comprising the steps of:
applying a resist composition according to claim 28 onto a substrate to form a coating,
heat treating the coating and then exposing it to high-energy radiation having a wavelength of up to 180 nm or electron beams through a photo mask, and
optionally heat treating the exposed coating and developing it with a developer.

32. (New): A polymer of claim 25, wherein R is a single bond or methylene.

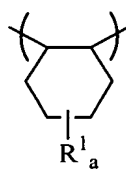
33. (New): A polymer of claim 1, wherein the recurring units of formula (1) are selected from formulae (2)-1, (2)-2, (2)-3, (2)-4, (2)-5, (2)-6, (2)-7, (2)-8, and (2)-9



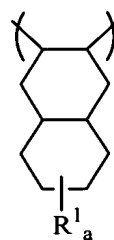
(2)-1



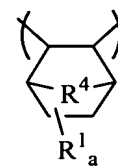
(2)-2



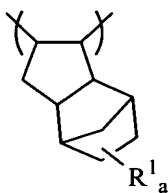
(2)-3



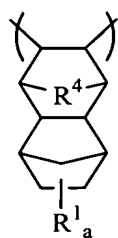
(2)-4



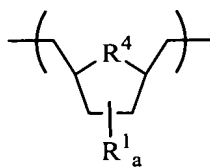
(2)-5



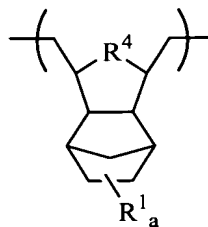
(2)-6



(2)-7



(2)-8



(2)-9

wherein

R^4 is a methylene group, oxygen atom, NH group or sulfur atom, and

“a” is a positive number of 1 to 3.